

**PULSE WIDTH MODULATION SIGNAL GENERATOR AND
SWITCHING MODE POWER SUPPLY INCLUDING THE SAME**

ABSTRACT OF THE DISCLOSURE

In accordance with an embodiment of the invention, a switching mode power supply includes a rectifier configured to convert AC power to a first DC power, an output unit configured to convert the first DC power to a second DC power under the control of a first switch, and a pulse width modulation generator coupled to control the first switch. The pulse width modulation generator has a regulator configured to regulate the first DC power. The regulated first DC power powers the pulse width modulation generator. The regulator includes a second switch coupled to control a transmitter so that when the second switch is in a first state the transmitter transmits the first DC power to a capacitor to charge the capacitor, and when the switch is in a second state the transmitter does not transmit the first DC power to the capacitor to thereby allow the charge in the capacitor to reduce.

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